

LM-79

Test Report

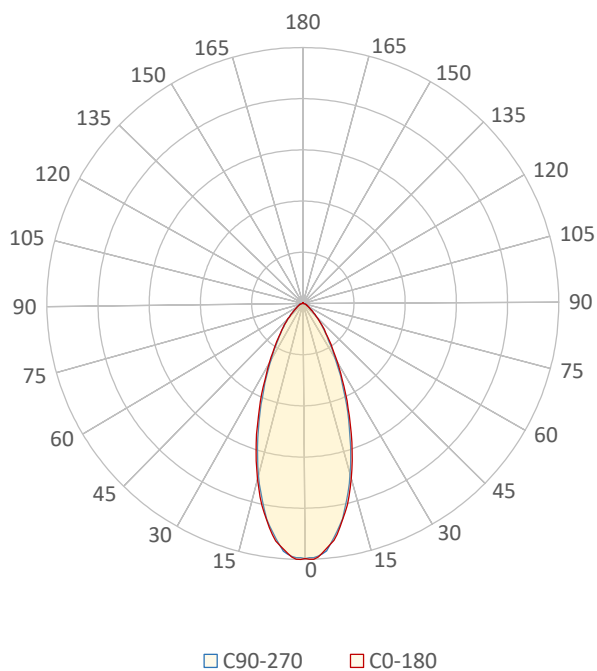
LM79-JADE-EXPO-3000K-CRI90-SPOT+ 42° beamshaper

General Description

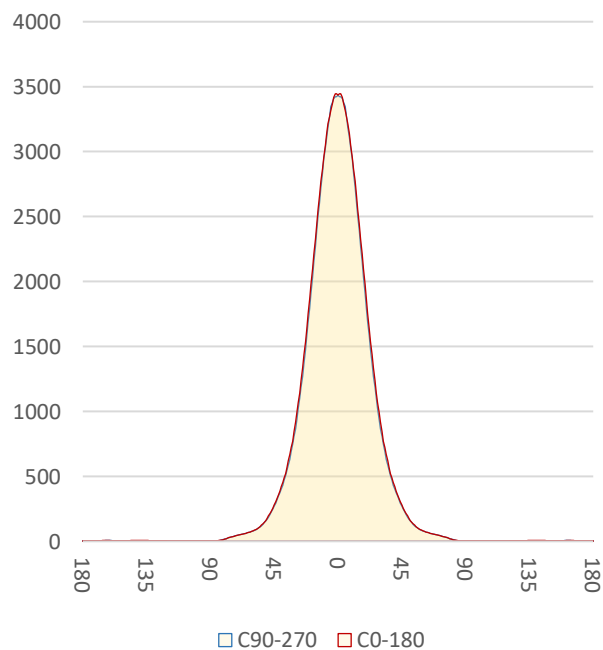
Item number	J-EX-X-3-1-30-90-1
Date and time	16-10-2017 13:44:54
CCT (Kelvin)	3079 K
Beam angle	42°
Luminous flux	2388 lm
Efficiency	87 lm/watt
Weighted energy	27,3 kWh/1000h
Power factor	0,94
CRI (RA)	91,8
Fidelity index Rf	Rf 90,8
Gammut index Rg	Rg 99,0
Peak	3445 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m																			
Lux*	3434 lx	859 lx	382 lx	215 lx	137 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	319,1 fcd	79,8 fcd	35,5 fcd	19,9 fcd	12,8 fcd																			
Beam width (meter)	0,8 m	1,5 m	2,3 m	3,1 m	3,8 m																			
Beam width (Feet)	2,5 ft	5 ft	7,6 ft	10,1 ft	12,6 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
3434lx	859lx	382lx	215lx	137lx	95lx	70lx	54lx	42lx	34lx	28lx	24lx	20lx	18lx	15lx	13lx	12lx	11lx	10lx	9lx					
3,3ft	6,6ft	9,8ft	13,1ft	16,4ft	19,7ft	23ft	26,2ft	29,5ft	32,8ft	36,1ft	39,4ft	42,7ft	45,9ft	49,2ft	52,5ft	55,8ft	59,1ft	62,3ft	65,6ft					
319,1fcd	79,8fcd	35,5fcd	19,9fcd	12,8fcd	8,9fcd	6,5fcd	5fcd	3,9fcd	3,2fcd	2,6fcd	2,2fcd	1,9fcd	1,6fcd	1,4fcd	1,2fcd	1,1fcd	1fcd	0,9fcd	0,8fcd					
Intensities in 0° c-plane																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3434	3445	3368	3267	3140	2958	2775	2554	2326	2097	1866	1636	1437	1240	1067	918	771	670	569	487					
100%	100%	98%	95%	91%	86%	81%	74%	68%	61%	54%	48%	42%	36%	31%	27%	22%	20%	17%	14%					
Intensities in 90° c-plane																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3434	3423	3379	3266	3107	2943	2723	2502	2270	2030	1795	1581	1367	1186	1019	865	748	631	547	470					
100%	100%	98%	95%	90%	86%	79%	73%	66%	59%	52%	46%	40%	35%	30%	25%	22%	18%	16%	14%					
Intensities in 180° c-plane																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3434	3445	3368	3267	3140	2958	2775	2554	2326	2097	1866	1636	1437	1240	1067	918	771	670	569	487					
100%	100%	98%	95%	91%	86%	81%	74%	68%	61%	54%	48%	42%	36%	31%	27%	22%	20%	17%	14%					
Intensities in 270° c-plane																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3434	3423	3379	3266	3107	2943	2723	2502	2270	2030	1795	1581	1367	1186	1019	865	748	631	547	470					
100%	100%	98%	95%	90%	86%	79%	73%	66%	59%	52%	46%	40%	35%	30%	25%	22%	18%	16%	14%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
42°					84,6°					117,5°					94,8%					86,8%				



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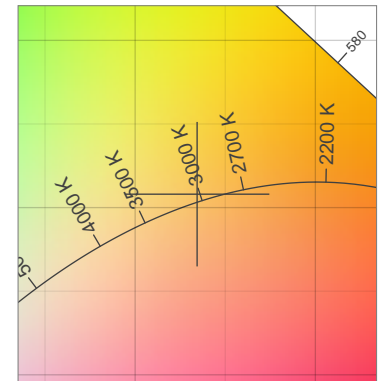
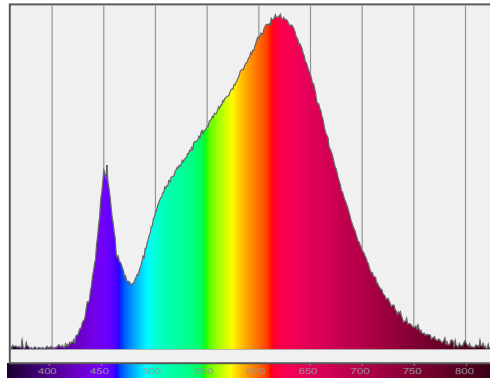
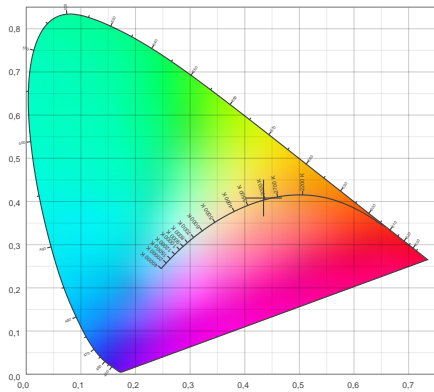
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Color details



CIE 1931

x: 0,434



Spectra

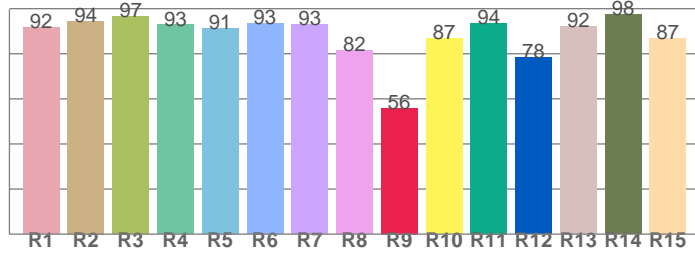
CIE 1931 ZOOM

3079 K

y: 0,408

Δuv : 0,0019

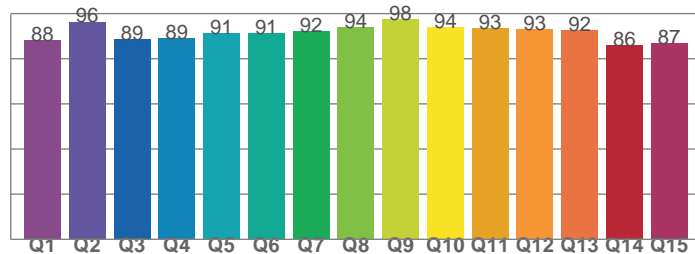
CRI: 91,8 (R1-R8)



CRI values, R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8
91,6	94,5	96,7	92,8	91,1	93,3	93,1	81,6
R9	R10	R11	R12	R13	R14	R15	
55,9	86,7	93,6	78,3	92,2	97,6	87,0	

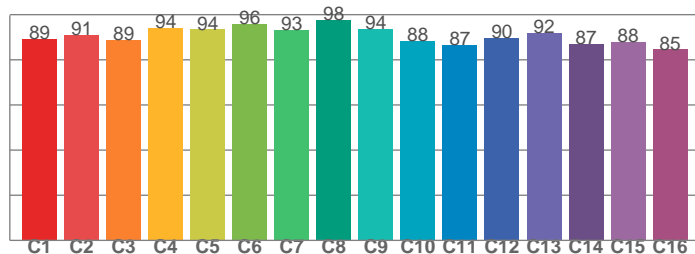
CQS: 90,9



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
88,3	96,4	88,7	88,9	91,3	91,5	92,0	93,8
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,6	94,1	93,4	92,9	92,5	85,8	86,7	

TM30: 90,8



TM30 values, 16 binned values out of total of 99 values

C1	C2	C3	C4	C5	C6	C7	C8
89,3	91,1	88,9	94,0	93,5	96,0	93,2	97,6
C9	C10	C11	C12	C13	C14	C15	
93,7	88,3	86,7	89,6	92,0	87,0	87,9	

Color parameters

Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3079 K	91,8	55,9	90,8	99,0	90,9	0,434	0,408	0,247	0,348	0,0019



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TM30 details

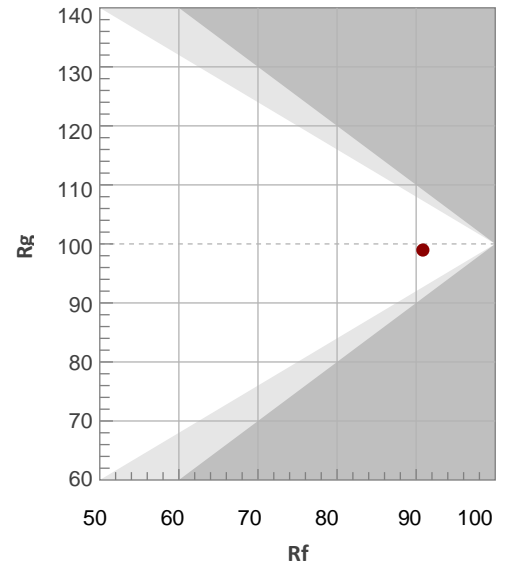
Rf 90,8

Fidelity index Rf

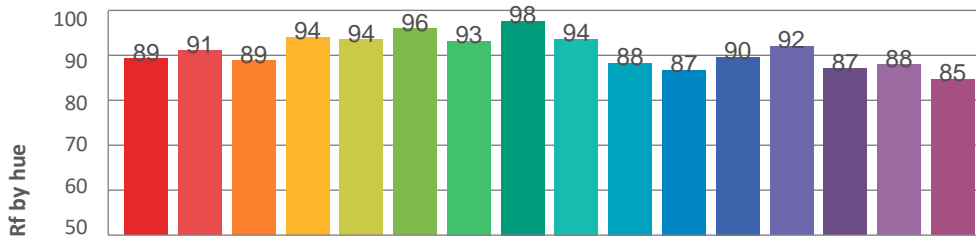
Rg 99,0

Gamut index Rg

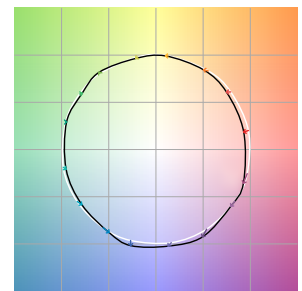
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	89	-5%	-1%
2	91	-4%	2%
3	89	-2%	5%
4	94	-1%	3%
5	94	-1%	3%
6	96	2%	0%
7	93	-2%	-2%
8	98	-1%	0%
9	94	-3%	2%
10	88	-2%	5%
11	87	1%	8%
12	90	5%	1%
13	92	3%	-4%
14	87	4%	-8%
15	88	-1%	-7%
16	85	-2%	-11%



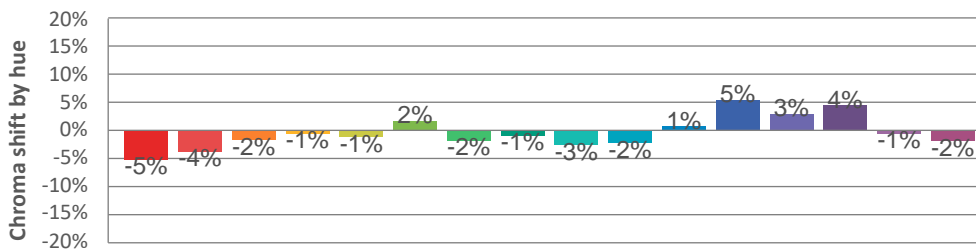
Hue binH



Color vector graphics



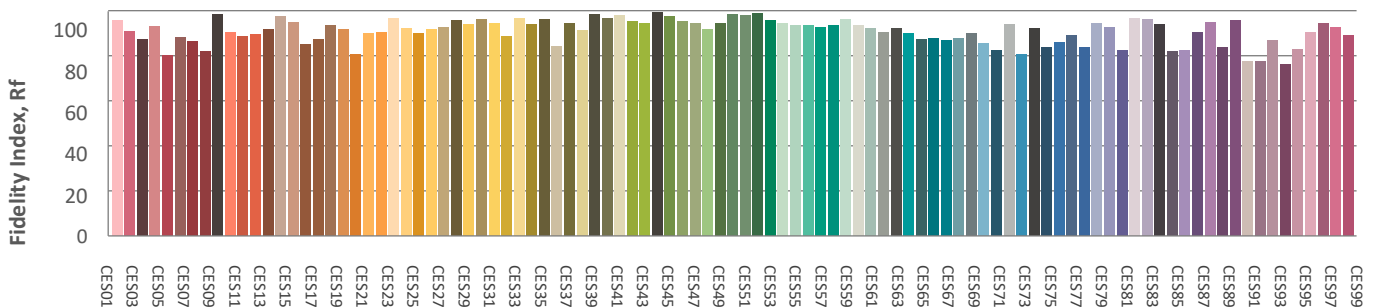
Hue bin



Color distortion graphics



Color Evaluation Sample



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Glare Evaluation According to UGR

p Ceiling	70	70	50	50	30	70	70	50	50	30	
p Walls	50	30	50	30	30	50	30	50	30	30	
p Floor	20	20	20	20	20	20	20	20	20	20	
Room size X Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis					
2H	2H	24,0	24,8	24,3	25,0	25,3	24,0	24,8	24,3	25,0	25,3
	3H	24,5	25,3	24,8	25,5	25,8	24,5	25,3	24,8	25,5	25,8
	4H	24,8	25,5	25,1	25,8	26,1	24,8	25,5	25,1	25,8	26,1
	6H	25,0	25,6	25,3	25,9	26,2	25,0	25,6	25,3	25,9	26,2
	8H	25,0	25,6	25,3	25,9	26,2	25,0	25,6	25,3	25,9	26,2
	12H	25,0	25,6	25,3	25,9	26,2	25,0	25,6	25,3	25,9	26,2
4H	2H	24,1	24,9	24,5	25,1	25,4	24,1	24,9	24,5	25,1	25,4
	3H	24,9	25,5	25,3	25,8	26,1	24,9	25,5	25,3	25,8	26,1
	4H	25,3	25,8	25,7	26,2	26,5	25,3	25,8	25,7	26,2	26,5
	6H	25,6	26,0	26,0	26,4	26,8	25,6	26,0	26,0	26,4	26,8
	8H	25,6	26,0	26,0	26,4	26,8	25,6	26,0	26,0	26,4	26,8
	12H	25,6	25,9	26,0	26,3	26,8	25,6	25,9	26,0	26,3	26,8
8H	4H	25,4	25,8	25,9	26,2	26,6	25,4	25,8	25,9	26,2	26,6
	6H	25,7	26,0	26,2	26,5	26,9	25,7	26,0	26,2	26,5	26,9
	8H	25,8	26,1	26,3	26,5	27,0	25,8	26,1	26,3	26,5	27,0
	12H	25,8	26,0	26,3	26,5	27,0	25,8	26,0	26,3	26,5	27,0
12H	4H	25,4	25,8	25,9	26,2	26,6	25,4	25,8	25,9	26,2	26,6
	6H	25,7	26,0	26,2	26,5	26,9	25,7	26,0	26,2	26,5	26,9
	8H	25,8	26,0	26,3	26,5	27,0	25,8	26,0	26,3	26,5	27,0

Variation of the observer position for the luminaire distance S

S = 1,0H	+1,1 / -1,1	+1,1 / -1,1
S = 1,5H	+2,5 / -1,7	+2,5 / -1,7
S = 2,0H	+3,9 / -2,1	+3,9 / -2,1
Standard table	BK03	BK03
Correction summand	8,1	8,1

Corrected glare indices referring to 2388lm total luminous flux



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